# Stage 1 Bundles

# *Draft*
# *Bundles of Early Implementation Actions*
### *(Pre-ROD and Early Stage 1)*
### *March 11, 1999*

## Introduction

The CALFED Bay-Delta Program was established to solve problems in ecosystem quality, water quality, water supply reliability, and levee and channel integrity. The Program seeks to do this by developing a long-term comprehensive plan that will restore ecological health and improve water supply reliability for beneficial uses of the Bay-Delta System. The Program has crafted alternatives that improve water quality so as to protect Delta drinking water supplies and improve the quality of aquatic habitat. Maintaining and improving the integrity of Delta levees and channels will protect agricultural, urban, and environmental uses within the Delta and protect the quality of water uses elsewhere in the state. Water conservation and recycling programs can assure the efficient use of existing water supplies and any new supplies developed through the Program.

In Phase III, following completion of the Final Programmatic EIR/EIS, implementation will begin. This period will include site-specific environmental review and permitting, as necessary. Because of the size and complexity of any of the alternatives, implementation is likely to take place over a period of decades.

The first stage of Program implementation is critical to its long-term success because it will serve as an indication of the CALFED agencies and stakeholder community capacity to act on a cost-effective, practical, and equitable set of actions which advance the Program objectives. In order to move expeditiously into Program implementation after completion of the Programmatic EIR/EIS and the Record of Decision, it is necessary to begin now to define the earliest, high priority actions, their funding requirements and sources, implementing entities, and detailed implementation plans for each action. This draft paper is intended to open a broad discussion of these issues and to elicit input from all interested participants in the CALFED process. As the action priorities are reviewed, refined, and evaluated in more detail, they will serve to guide funding priorities, formulation of cost estimates, resource planning, and implementation activities of CALFED participating agencies.

## Priority Actions

Based on discussions with CALFED Program Managers, proposed high priority actions have been identified for implementation prior to or shortly after the completion of Phase

II. CALFED Program Managers in turn relied on input from technical advisory groups, public comments, agency comments, and judgment to develop this initial draft of proposed early implementation actions. These high priority actions would be the initial actions begun in Stage 1. In addition the list includes actions currently underway or proposed for initiation in Federal Fiscal Years 1999-2000. These actions are selected in order to address some of the most critical problems facing the Bay-Delta system, to achieve a fair and well balanced suite of actions, and to develop the scientific information required to guide later implementation actions according to the principles of adaptive management. Additional monitoring, research, and assessment actions need to be added to the list of proposed early implementation actions to support the adaptive management process. This information is being developed and will be included in future drafts.

Many of the actions in this list are general in nature. For most actions, final refinement will be done through a prioritization process which is developed and tailored to each CALFED program component. For example, refinement and prioritization of ecosystem actions will be set through a science based process which facilitates adaptive management. In addition, input from regional stakeholders will be carefully considered in formulating final implementation plans. All actions will be consistent with the final program plans and strategic implementation plans. The timing of implementation of each action will also be subject to funding availability.

Each proposed action must undergo the appropriate environmental review and permit process prior to implementation; their inclusion here is simply designed to help develop action and budget priorities.

**Implementation Entities**

Table 1 identifies agencies and organizations that appear to be the most likely entities to be the lead for implementation of each of the actions. While some of the agencies may serve a long-term implementation role in Stage I, no decisions have been made at this time on CALFED governance.

**Bundles**

The actions have been grouped into 7 bundles either to provide a balanced suite of actions for specific regions within the CALFED problem and solution, or to provide programmatic balance between actions which are not necessarily associated with any specific geographic area (Table 1). The bundles highlight certain critical ongoing programs which will require implementation decisions in the near future, but do not include the many other ongoing monitoring and improvement programs in the Bay-Delta region.

Once these bundles have been fully reviewed and refined, specific linkage mechanisms, as appropriate, need to be identified to assure that the bundled actions indeed move

forward together as intended. A wide range of linkage mechanisms may be applied, including contracts, inter-agency agreements, legislation (including bond acts), and individual agency funding commitments.

The 7 bundles are described below, in no particular order of priority:

**Lower San Joaquin River and South Delta Region Bundle**

This bundle is designed to address the regional concerns regarding south Delta and lower San Joaquin River and south Delta fisheries, water quality, water supply reliability, recreation, flood control, and wildlife habitat. The proposed actions are designed to conduct feasibility and environmental evaluations and implement corrective actions in the region as well as in upstream watersheds which affect the quality and quantity of flows in the San Joaquin River.

**Lower Sacramento River, North Delta Bundle**

This bundle is designed to develop an balanced solution to concerns surrounding fishery and water quality impacts of diversions from the Sacramento River into the central Delta, to address regional flood concerns, and to substantially enhance riparian and wetlands habitat corridors in the region.

**Yolo Bypass, Suisun Marsh, and West Delta Bundle**

This bundle is designed to address group water quality, fisheries protection, and habitat enhancement actions for the west Delta region, including Suisun Marsh, the west Delta islands, and the Yolo Bypass. Because expansion of wetlands in the Yolo Bypass area could exacerbate the potential toxicity effects of mercury originating in the Cache Creek basin, this bundle includes substantial research to identify those sources and potential remediation tools.

**Delta-Wide ERP/Levees Bundle**

This bundle is designed to achieve a reasonable balance between implementation of ecosystem improvement actions and levee system improvement actions. In addition this bundle includes actions to improve fisheries, water quality, and habitat throughout the Delta, including protection and enhancement of Delta in-channel islands.

**Sacramento River, San Joaquin River and Tributaries Bundle**

This bundle includes ecosystem restoration (primarily fisheries habitat, hatchery management, and floodplain and meander belt restoration along key river reaches.

**Integrated Water Management Bundle**

This bundle includes actions which can lead to improvements in water supply reliability and flexibility through improvements in water use efficiency, water transfers, water storage and conveyance facilities (groundwater and surface water), water quality, and water associated habitats. The proposed actions include the Program problem area and solution areas, including state and federal project service areas and upper watersheds. It includes key actions that comprise the Integrated Storage Investigation.

**Governance Bundle**

This bundle addresses certain organizational issues which need to be addressed to assure that orderly implementation of Program actions can occur as the level of activity increases substantially. These issues include the potential formation of a CALFED management entity, an ERP implementation entity, an entity for coordinated implementation of program monitoring activities, and actions to assure that water quality and water use efficiency measures can be fully implemented.

File: bundle_cov.doc
Rev. 3/11/99 smb

# Table 1. Draft Early Implementation Bundles

| | Action Description | Detail/Assumptions | Primary Effects | CALFED Program | Secondary CALFED Program | Implementing Entity | Implementing Authority Required? |
|---|---|---|---|---|---|---|---|
| 2 | **Lower San Joaquin River and South Delta Region Bundle** | | | | | | |
| 3 | Plan, Design & Construct CVP Tracy Fish Facility, First Stage Module, 2500 cfs screen, plus Sorting, Holding, Transport, and Release | New fish screens for TPP full export capacity to be completed by end of Stage 1 | Improve fish survival | S/C | ERP | USBR | |
| 4 | Plan, Design, & Construct:Process for SWP Export Capacity to 10,300 cfs: New Screened Intake with Gates and LH Pumps, Head of Old River and Ag Barriers or Functional Equivalent, Channel Enlargement as Reqd. Potential Selected Channel Improvements, Signage, and Access for Recreation | Interim increase to 8500 cfs export capacity may be sought if benefits justify | Improve fish survival, water supply flex. and reliability, drinking water quality stages, circulation, and water quality | S/C | ERP | DWR,USBR | |
| 5 | Implement the Proposed Vernalis Adaptive Management Plan (VAMP) Agreement | Manage San Joaquin River flows, Delta exports, conduct fishery studies, evaluate benefits and impacts | Improve salmon survival, cu/gw management u/s, improve understanding of fish vs flow | | ERP | USBR, DWR, and SJRGA | |
| 6 | Veale Tract Drainage Discharge Relocation Feasibility Study and Environmental Documentation | Possible cost share with Contra Costa Water District. | Improve drinking water | WQ | | | |
| 7 | Evaluate/Implement as Appropriate Release of TDS Buildup during High Flow Periods | | Improve late season WQ in lower San Joaquin River, potential drinking water quality impact | WQ: not yet listed | | Local Water Distr. W/ grant assistance | |
| 8 | Feasibility Study: Evaluate Recirculation Benefits and Impacts | | Potential to improve water quality and meet VAMP flow requirements in lower San Joaquin River | S/C | ERP, WQ | DWR,USBR | |
| 9 | Study: Investigate Dissolved Oxygen Causes and Solutions for Lower San Joaquin River and begin implementation | Refine and Implement real-time management of discharges | Find ways to Improve WQ in San Joaquin River in vicinity of Stockton | WQ | ERP | Multi-Agency: RWQCB lead | |
| 10 | Pilot Studies, Selenium: Integrated On-Farm Management | On farm selenium control management practices. | Evaluate techniques for reducing Se drainage | WQ | ERP | Grasslands Water District | |

| 1 | Action Description | Detail/Assumptions | Primary Effects | CALFED Program | Secondary CALFED Program | Implementing Entity | Implementing Authority Required? |
|---|---|---|---|---|---|---|---|
| 11 | Study: Non-seawater sources of bromine (Br) in San Joaquin drainage. | Determine if non-seawater sources of Br in San Joaquin Drainage are significant and impact water quality | Improve drinking water source quality: ID most important sources; develop abatement strategies | WQ | ERP | RWQCB and Other Entities | |

| 1 | Action Description | Detail/Assumptions | Primary Effects | CALFED Program | Secondary CALFED Program | Implementing Entity | Implementing Authority Required? |
|---|---|---|---|---|---|---|---|
| 12 | ***Lower Sacramento River, North Delta Bundle*** | | | | | | |
| 13 | Restore Tidal Marsh and Riparian Habitats along Georgiana Slough | The assumption is that improved habitat will decrease the diversion effect on fisheries. | Improve fisheries and wildlife habitat | ERP | | | |
| 14 | Feasibility Study: Lower Mokelumne River channels dredging and limited levee setbacks, Modify/raise levees in selected reaches | Investigate the feasibility of offsetting impacts to fisheries which may result from this action | Flood control and habitat creation w/ levee berms | S/C | ERP | DWR | |
| 15 | Acquire and Convert Land for Shallow Water, Wetland, and Riparian Habitat | This action will contribute to establishment of a Mokelumne River Corridor. | Flood control and habitat creation w/ breached levees | ERP: Mokelumne Corridor | | DWR, DFG, and others | |
| 16 | Study Feasibility of Delta Cross Channel Reop.and 2-4K cfs Hood Diversion | | Balance water quality and fisheries benefits, potential for improved drinking water quality | S/C | ERP, WQ | DWR | |

| 1 | Action Description | Detail/Assumptions | Primary Effects | CALFED Program | Secondary CALFED Program | Implementing Entity | Implementing Authority Required? |
|---|---|---|---|---|---|---|---|
| 17 | ***Yolo Bypass, Suisun Marsh , and West Delta Bundle*** | | | | | | |
| 18 | Implement Suisun Marsh Diversion Screening Program | It is assumed that fish screens in this area will aid in the recovery of threatened or endangered fish species. | Reduce fisheries entrainment impacts | ERP | | | |
| 19 | Suisun Marsh and Van Sickle Island | Evaluate and restore tidal wetlands. | | ERP | | | |
| 20 | Provide Needs and Opportunities Analysis for Improving Ecosystem Restoration and Flood Bypass Habitat for the Yolo Bypass area | This is a portion of a general effort for flood bypass areas, including Colusa Basin, Butte Basin, Sutter Bypass, Yolo Bypass, Chowchilla Bypass, Eastside, Fresno Slough, and James Bypass. See action 42 | Improve diverse habitat, fish passage, and WQ | ERP | | CALFED: Multi-Agency | |
| 21 | Cache Creek Mercury Source Control Study | | Develop ways to reduce Hg transport to waterways | WQ/ERP | | RWQCB | |
| 22 | Clear Lake upper watershed mercury remediation actions | | | WQ/ERP | | RWQCB,DWR | |
| 23 | Frank's Tract Habitat Restoration | Further evaluate and restore portions of Frank's Tract to provide for channel islands and tidal wetland habitat using clean dredge materials and natural sediment accretion. Combine the habitat restoration with a program to control or eradicate nuisance aquatic plants. | Create shallow water habitat, riparian | ERP | | DWR, Corps | |
| 24 | Dredged Materials Reuse | Pilot Studies and Implementation, as materials and appropriate opportunities become available. | Materials for habitat, levees | Levees | ERP | DWR, Corps | |
| 25 | Barker Slough Watershed Restoration | | Improve WQ, sediment, | WQ | ERP | Local: County | |

| 1 | Action Description | Detail/Assumptions | Primary Effects | CALFED Program | Secondary CALFED Program | Implementing Entity | Implementing Authority Required? |
|---|---|---|---|---|---|---|---|
| 26 | ***Delta Wide ERP/Levees Bundle*** | | | | | | |
| 27 | Levees Subventions | | Levee System Integrity | Levees | | DWR, Corps | Congressional authorization may be required for Corps participation with Non-Project Levees |
| 28 | Levees Special Projects | | Levee System Integrity | Levees | | DWR | |
| 29 | Emergency Response Program | | Levee System Integrity | Levees | | DWR | |
| 30 | Identify Risks to Delta Levees and Develop a Risk Management Strategy | | Levee System Integrity | Levees | WQ, ERP, Conveyance | CALFED | |
| 31 | Evaluate the Need to Screen Small Diversions in the Delta and Implement | | Reduce fisheries entrainment impacts | ERP | | DFG, DWR | |
| 32 | Nonnative Invasive Species (NIS) (Note: Expand to actions in SF Bay and Suisun Marsh, to reduce further invasions and eradication of *Lepidium*) | Demonstration projects. This action is part of an ecosystem-wide effort to control non-native invasive species with early emphasis on the Delta and the Bay. | | ERP | | USFWS | |
| 33 | Total Organic Carbon Evaluation | General Evaluation and Pilot Study: Total Organic Carbon Reduction, DWR to do engineering and technical oversight. | Improve in-Delta drinking water source quality: | WQ/ERP | | DWR, Local RD | |
| 34 | ERP Levee Relocations, Berms, Veg. Management | Cost included with In-Channel Island Restoration | Delta Shallow Water, tidal wetlands, and riparian habitat | ERP | | DWR,DFG | |
| 35 | In-Channel Islands Restoration | | Tidal wetlands, riparian habitat, special status species | ERP | | DWR,DFG | |
| 36 | Assessment of sources and | Includes TOC, nutrients, salinity, | | WQ | | | |
| 37 | Determine Key Acquisition Areas for Conservation of Special Status Plant Species in the Delta, Suisun Marsh, and S.F. Bay | | | ERP | | | |
| 38 | Studies to Determine Propagation Techniques and Restoration Protocols of Rare Plants in the Delta, Suisun Marsh, and S.F. Bay | | | ERP | | | |

| 1 | Action Description | Detail/Assumptions | Primary Effects | CALFED Program | Secondary CALFED Program | Implementing Entity | Implementing Authority Required? |
|---|---|---|---|---|---|---|---|
| 39 | ***Sacramento River, San Joaquin River, and Tribs Bundle*** | | | | | | |
| 40 | Sacramento River Meander Corridor Studies and Implementation | Continue studies and demonstration projects which address potential changes in hydrology and geomorphology, local economic impacts, and other issues associated with ongoing riparian restoration work. | | ERP | | DWR | |
| 41 | American River Corridor Management Plan | Develop a corridor management plan | | ERP | | | |
| 42 | Develop Tuolumne River and Other High-Priority Sediment Management Plans | Develop a sediment management plan that includes evaluating coarse and fine sediment transport and the need to augment gravel supplies, and is consistent with efforts to restore the Tuolumne River corridor | | ERP | | | |
| 43 | Tuolumne River Restoration Implementation Actions | The Tuolumne River has been indentified as a large scale demonstration stream in the ERP | | ERP | | | |
| 44 | Fish Management | Develop Biological and Genetic Management Plans to Address Restoration and Recolonization of Streams in the Central Valley by Chinook Salmon and Steelhead | | ERP | | | |
| 45 | Hatchery Operations | Develop a comprehensive Implementation Plan for a statistically designed marking and tagging program for Chinook Salmon produced at Central Valley facilities consistent with existing programs throughout the West | | ERP | | | |
| 46 | Upgrade Weir at Battle Creek Coleman Fish Hatchery | Repair and Modify Weir | | ERP | | | |
| 47 | Butte Creek Restoration | | | ERP | | DWR | |
| 48 | Deer Creek Restoration | | | ERP | | DWR | |
| 49 | Comprehensive Flood Control Study | | | External | Coord. Levees, S/C | Corps, DWR | |
| 50 | Sacramento River Mercury Source ID and Control/Remediation Study | | | WQ | | | |
| 51 | Sacramento River Levees Restoration | | | S/C | | Corps, DWR | |

| 1 | Action Description | Detail/Assumptions | Primary Effects | CALFED Program | Secondary CALFED Program | Implementing Entity | Implementing Authority Required? |
|---|---|---|---|---|---|---|---|
| 52 | San Joaquin River Meander Corridor & Tribs Study, Implementation, and Acquisition | | | ERP | | DWR, Corps | |

| 1 | Action Description | Detail/Assumptions | Primary Effects | CALFED Program | Secondary CALFED Program | Implementing Entity | Implementing Authority Required? |
|---|---|---|---|---|---|---|---|
| 53 | ***Integrated Water Management Bundle*** | | | | | | |
| 54 | Environmental Education Programs | Programs designed to develop a broader | Increase public awareness | ERP | WQ | | |
| 55 | Develop a Long-Term Plan for In-Stream Flows | Develop Ecologically-based Hydrologic Models and Water Management Strategies and apply to formulate in-stream flow augmentation plans. | Improve fisheries and wildlife habitat | ERP | | | |
| 56 | Develop Ecologically-based Hydrologic Models and Water Management Strategies | | | ERP | | | |
| 57 | Provide Needs and Opportunities Analysis for Improving Ecosystem Restoration and Flood Bypass Habitats | Areas include but are not limited to: Colusa Basin, Butte Basin, Sutter Bypass, Yolo Bypass, Chowchilla Bypass, Eastside, Fresno Slough, and James Bypass. | Improve diverse habitat, fish passage, and WQ | ERP | | CALFED: Multi-Agency | |
| 58 | Diazinon and chlorpyrifos Assessment | Assess the fate and transport of diazinon and chlorpyrifos; begin implementation to reduce water quality impacts, using BMP's. | | WQ | ERP | | |
| 59 | Diazinon and chlorpyrifos Education | Develop an educational program that provides information on ways to reduce water quality impacts. Possible test market areas include Sacramento and Stockton. 1997/1998 Eco funding provided to develop BMPs. 2000-develop BMPs | | WQ | | | |
| 60 | Groundwater/CU Feasibility Studies with local sponsors | | Improve Storage/CU utility | S/C | | Local Cooperating Entities and CALFED | |
| 61 | Groundwater/CU: Develop and Impl. GW Monitoring and Modeling Progr., Butte Co. or other | | Improve Storage/CU utility | S/C | | Local Cooperating Entities and CALFED | |
| 62 | Friant Dam Enlargement Recon Study | | Improve Flood Control and Storage/CU utility | S/C | | Proposed Joint study: USBR , Corps, and Rec Board | |
| 63 | Sites and Alternatives Feasibility Study | | Improve Storage/CU utility | S/C | | DWR | |
| 64 | Shasta 6.5 ft Raise Feasibility Study | | Improve Storage/CU utility | S/C | | USBR | |

| 1 | Action Description | Detail/Assumptions | Primary Effects | CALFED Program | Secondary CALFED Program | Implementing Entity | Implementing Authority Required? |
|---|---|---|---|---|---|---|---|
| 65 | In-Delta and Adjacent to Delta Storage: Feasibility Study | | Improve Storage/CU utility | S/C | | DWR | |
| 66 | Power Facilities Reop. For Water Supply Study | | Improve Storage/CU utility | S/C | ERP | DWR, FERC, PUC, SWRCB | |
| 67 | Overall Storage Strategy | | Improve Storage/CU utility | S/C | | CALFED | |
| 68 | Fish Migration Barrier Removal Prioritization and Evaluations | | | ERP | S/C | | |
| 69 | Financial Incentive Program | Local assistance (loans & grants) for cost effective water conservation/recycling actions, Low interest loans | reduce Demand | WUE | | | |
| 70 | | Urban | | WUE | | CALFED, Multi-agency | |
| 71 | | Ag | | WUE | | CALFED, Multi-agency | |
| 72 | | Managed Wetlands | | WUE | | CALFED, Multi-agency | |
| 73 | | Recycling | | WUE | | CALFED, Multi-agency | |
| 74 | Technical Assistance | Recoverable loss studies, on-farm conservation studies, funded through member agencies (USBR, DWR) | reduce Demand | WUE | | | |
| 75 | | Urban | | WUE | | CALFED, Multi-agency | |
| 76 | | Ag | | WUE | | CALFED, Multi-agency | |
| 77 | | Refuges or Managed Wetlands | | WUE | | CALFED, Multi-agency | |
| 78 | | Recycling | | WUE | | CALFED, Multi-agency | |
| 79 | Directed Studies | | | WUE | | | |
| 80 | | Research ET | | WUE | | DWR, UC | |
| 81 | | Pilot Measurement Program | | WUE | | CALFED, Multi-agency | |
| 82 | Establish water transfer clearinghouse | Features of Clearinghouse in 2000/01; develop website to disseminate transfer information and approval process requirements. No user fees. Possibly house in new division of SWRCB. | Imp. Market efficiency | WT | | CALFED | |

| 1 | Action Description | Detail/Assumptions | Primary Effects | CALFED Program | Secondary CALFED Program | Implementing Entity | Implementing Authority Required? |
|---|---|---|---|---|---|---|---|
| 83 | Streamline approval process/ Standardize application checklist for water transfers | Working with SWRCB, DWR, USBR to create a more standard application process. Would be available through the Clearinghouse, among other things. Several year effort. Initial effort is to clarify existing process thru SWRCB guidebook. | Assure disclosure of proposed actions | WT | | USBR, DWR, SWRCB | |
| 84 | Expedite approval process for water transfers | SWRCB preparing guidebook on existing approval process. Help ID additional opportunities to expedite. | Imp. Market efficiency | WT | | USBR, DWR, SWRCB | |
| 85 | Develop Definitions of Transferable Water | Develop definitions of transferable water for types of transfers that are of issue as identified in guidebook. Have to have agencies and stakeholders work closely. | Imp. Market efficiency | WT | | USBR, DWR, SWRCB | |
| 86 | Carriage water Determination for Water Transfers | Coordinate with EWA to understand impacts on carriage water. Refine DWR/USBR policies after that. Work effort is dependent on outcome of EWA so defer until FY2001. | Imp. Market efficiency | WT | | CALFED, Multi-agency | |
| 87 | Refill criteria determination for Water Transfers | Coordinate with SWRCB water rights hearing that involve negotiations on refill criteria (may be completed before stage 1) | Imp. Market efficiency | WT | | DWR, USBR | |
| 88 | Advance Provision for In-stream Water Transfers | Develop accounting/tracking measures for 1707 transfers | Facilitate ERP Impl. | WT | | CALFED, Multi-agency | |
| 89 | Forecast conveyance capacity | May be increased work effort at DWR and USBR | Imp. Market efficiency | WT | | DWR, USBR | |
| 90 | Capacity Access | Work with stakeholders and DWR/USBR to make some capacity available for transfers. | Imp. Market efficiency | WT | | DWR, USBR | |
| 91 | Evaluate Need for Water Rights Legislation | CALFED is preparing a recommendation. No additional funding expected. | | WT | | CALFED | |
| 92 | Funding in ground water/conjunctive use | Incentive program for ground water management. Coordinate with conjunctive use program/incentives. Incentive dollars would not be through this program. | Increase use of groundwater as a water management tool. | WT | S/C | CALFED | |
| 93 | Establish Pilot Environmental Water Account | | Improve Delta env. Protection and water supply reliability | ERP | S/C | CALFED | |
| 94 | Environmental Water Purchases | | Enhance fisheries habitat | ERP | S/C | CALFED | |

| 1 | Action Description | Detail/Assumptions | Primary Effects | CALFED Program | Secondary CALFED Program | Implementing Entity | Implementing Authority Required? |
|---|---|---|---|---|---|---|---|
| 95 | Fund and implement watershed restoration, maintenance, conservation, and monitoring activities. | Assist local watershed groups and government agencies to address common issues on a community basis through grants, directed actions, and technical support. | Manage land use, vegetation, and stream zones to reduce sediment, reduce stream flashiness, improve base flow, Reduce fire danger, reduce pathogens, and TDS | WM | ERP | CALFED | |
| 96 | Field Surveys for all special status species in and around all potential surface storage and groundwater sites | | | | | | |

| 1 | Action Description | Detail/Assumptions | Primary Effects | CALFED Program | Secondary CALFED Program | Implementing Entity | Implementing Authority Required? |
|---|---|---|---|---|---|---|---|
| 97 | ***Governance Bundle*** | | | | | | |
| 98 | CALFED Entity | | | Gov | | | Existing Structure or Leg. Required. |
| 99 | Determine/Establish governing structure for CALFED Program Elements, including ERP, WQ, Levees, WM, S/C, CMARP,WUE, WT | | | Gov | | | Existing Structure or Leg. Required. |
| 100 | Water Quality Actions Immunity: Federal Leg. | Develop appropriate balance of risk to cleanup entities and environmental due process responsibilities | Allow WQ actions to proceed w/o unacceptable liability risk | Gov | WQ | CALFED | New Federal Legislation |
| 101 | Identify Urban Water Certification Entity (UWCP) | | | Gov | WUE | DWR | |
| 102 | Implement Ag Water Use Certification | | | | | DWR | |

## *List of Abbreviations*

| | |
|---|---|
| Ag | Agricultural |
| BMP | Best Management Practices |
| Br | Bromide |
| CCFB | Clifton Court Forebay |
| CMARP | Comprehensive Monitoring, Assessment, and Research Program |
| Corps | U.S. Army Corps of Engineers |
| cu/gw | Conjunctive use/groundwater |
| CVP | Central Valley Project |
| DFG | Department of Fish and Game |
| DWR | Department of Water Resources |
| Eco | Ecosystem |
| Env. | Environmental |
| ERP | CALFED Ecosystem Restoration Program |
| ET | Evapotranspiration |
| External | Related action, not part of the CALFED Program |
| FY | Fiscal Year (assumed to be federal in this document) |
| Hg | Mercury |
| ID | Identify |
| Imp. | Improve |
| Levees | CALFED Levee System Integrity Program |
| LH | Low Head |
| RD | Reclamation District |
| RWQCB | Regional Water Quality Control Board |
| S/C | CALFED Storage and Conveyance Programs |
| Se | Selenium |
| SJRGA | San Joaquin River Group Authority |
| SWP | State Water Project |
| SWRCB | State Water Resources Control Board |
| TDS | Total Dissolved Solids, mg/l |
| TOC | Total Organic Carbon |
| USBR | U.S. Bureau of Reclamation |
| USFWS | U.S. Fish and Wildlife Service |
| VAMP | Vernalis Adaptive Management Program |
| w/ | with |
| WM | CALFED Watershed Management Program |
| WQ | CALFED Water Quality Program Elements |
| WT | CALFED Water Transfer Program Elements |
| WUE | CALFED Water Use Efficiency Program |